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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,152	09/09/2003	Isao Mochizuki	117047	1896

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EXAMINER

MOON, SEOKYUN

ART UNIT PAPER NUMBER

2675

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/657,152	MOCHIZUKI ET AL.	
	Examiner	Art Unit	
	Seokyun Moon	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 and 33 is/are allowed.
- 6) ☒ Claim(s) 1, 8, 10, 12, 19, 22, 25, 27, 29, 30 and 32 is/are rejected.
- 7) ☒ Claim(s) 2-7, 9, 11, 13-17, 20, 21, 23, 24, 26, 28 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/09/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 30, and 32** are rejected under 35 U.S.C. 102(e) as being anticipated by Pollitt (U.S. Pat. No. 5,198,991, herein after referred to as "Pollitt").

As to **claim 1**, Pollitt teaches an input device including:

a foldable keyboard [*fig. 2*] including a first keyboard unit ("*first keyboard portion 91*"), a second keyboard unit ("*second keyboard portion 92*"), and a rotatable connecting part (circle shaped portion located between an edge of the "*first keyboard portion 91*" and an edge of the "*second keyboard portion 92*" in [*fig. 2*]) provided between the first and second keyboard units, so that the first and second keyboard units are rotated to come apart from each other into an unfolded, horizontally arranged state [*fig. 3*] through the connecting part for use of the keyboard, while the first and second keyboard units are rotated to come close to each other into a closed, folded state through the connecting part for nonuse of the keyboard [*col. 6 lines 16-22*], and

a foldable flexible display (a combination of "*display 71*", "*first housing 12*", and "*second housing 14*") [*fig. 2*] rotatably attached to one edge (the edge contacting the circle shaped portion located between an edge of the "*first keyboard portion 91*" and an edge of the "*second keyboard portion 92*" in [*fig. 2*] of the first or second keyboard unit) of the first or second keyboard unit, the display being openable in correspondence with the horizontally arrange state of the first and second keyboard units and foldable in correspondence with the folded state of the first and second keyboard units.

As to **claim 19**, Pollitt [*fig. 1* and *fig. 2*] teaches the flexible display (a combination of "*display 71*", "*first housing 12*", and "*second housing 14*") being widened from the folded state [*fig. 1*] to a state extending in a direction parallel to a long side of the keyboard [*fig. 2*] (every vertical location of the flexible display respect to the keyboard that the display passes until the display reaches to the extended state is parallel to the long side of the keyboard) in which the first and second keyboard units are horizontally arranged.

As to **claim 30**, Pollitt [*fig. 2*] teaches each of the first ("*first keyboard portion 91*") and second keyboard ("*second keyboard portion 92*") units being rectangular shape having long sides (the side of the "*first (second) keyboard unit*" contacting the side of the "*second (first) keyboard unit*" in folded state of the keyboard) and short sides (the side of the "*first (second) keyboard unit*" contacting the side of the "*second (first) keyboard unit*" in unfolded state of the keyboard) [*fig. 3*], and the flexible display being folded along the short sides.

As to **claim 32**, Pollitt teaches the flexible display being folded to cover from outside both surfaces of the keyboard in which the first and second keyboard units being sup

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 8, 22, 25, and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollitt as exemplified by Leman (U.S. Pat. No. 6,266,234 B1, herein after referred to as "Leman").

As to **claim 8**, most of the claim limitations have already been discussed with respect to the rejection of claim 1 except for the computer main unit.

However, the courts have been held that a mere change of location of parts is generally recognized as being within the level of ordinary skill in the art. *In re Japikse*, 86 USPQ 70 (CCPA 1950).

Furthermore, Leman [*fig. 1*] teaches a computer main unit ("*processor 25*") provided to a portion of a keyboard ("*base portion 30*").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to shift Pollitt's computer main processor to one of the keyboard units to provide more space for input unit, output unit, memory, and etc. in the display of Pollitt.

As to **claim 22**, all of the claim limitations have already been discussed with respect to the rejection of claim 19.

As to **claim 25**, Pollitt does not teach expressly the flexible display having a width corresponding to a total width of the first or second keyboard unit and the control unit.

However, the courts have been held that a mere change in size of parts is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the dimensions of Pollitt's flexible display to have a width corresponding to a total width of the first and the second keyboard to improve the mobility of the personal computer.

As to **claim 29**, Pollitt [fig. 2] teaches the flexible display (a combination of "display 71", "first housing 12", and "second housing 14") being rotatably attached to one edge (the edge contacting the circle shaped portion located between an edge of the "first keyboard portion 91" and an edge of the "second keyboard portion 92" in [fig. 2] of the first or second keyboard unit) of the first ("first keyboard portion 91") or second keyboard ("second keyboard portion 92") unit and having a width corresponding to a total width of the first or second keyboard unit in a direction of the short side (the side of the "first (second) keyboard unit" contacting the side of the "second (first) keyboard unit" in unfolded state of the keyboard).

Pollitt does not teach the control unit united with the first or second keyboard unit and used for controlling the keyboard and the flexible display.

However, the courts have been held that a mere change of location of parts is generally recognized as being within the level of ordinary skill in the art. *In re Japikse*, 86 USPQ 70 (CCPA 1950).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to shift Pollitt's control unit to one of the keyboard units to provide more space for input unit, output unit, memory, and etc. in the display of Pollitt.

5. **Claims 10 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollitt in view of Noguchi et al. (U.S. Pat. No. 4,341,980, herein after referred to as "Noguchi").

Pollitt does not teach the rear surface of the flexible display being laminated by a resilient metallic thin plate.

However, Noguchi [fig. 2] teaches the rear surface ("*back base plate 11*") of a display device to be made of resilient metallic plate ("*elastic metal plate*") [col. 4 lines 59-60].

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a resilient or elastic plate on the rear surface of Pollitt's display to absorb any stress provided to the display device [col. 9 lines 23-27].

6. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pollitt.

Pollitt [fig. 2] teaches each of the first ("*first keyboard portion 91*") and second keyboard ("*second keyboard portion 92*") units being rectangular shape having long sides (the side of the "*first (second) keyboard unit*" contacting the side of the "*second (first) keyboard unit*" in folded state of the keyboard) and short sides (the side of the

"first (second) keyboard unit" contacting the side of the "second (first) keyboard unit" in unfolded state of the keyboard) [fig. 3].

Pollitt fails to teach the flexible display being folded along the long sides.

However, the courts have been held that a mere change in size of parts is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to change the dimensions of the keyboard so as to make the short side of one keyboard unit to contact the short side of other keyboard unit in folded state of the keyboard whereas to make the long side of one keyboard unit to contact the long side of other keyboard unit in unfolded state, and thus to fold the flexible display along the long sides of the keyboard units.

7. **Claim 32** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pollitt in view of Coulon et al. (U.S. Pat. No. 5,712,760, herein after referred to as "Coulon").

Pollitt does not teach the flexible display being folded to cover from outside both surfaces of the keyboard in which the first and second keyboard units are superposed.

However, Coulon [fig. 3a] teaches the flexible display ("screen 304") being folded to cover from outside both surfaces of the keyboard ("keyboards 306, 310, and 312") in which the first ("keyboard 310") and the second keyboard ("keyboard 306" and 312") units are superposed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include an extra keyboard unit to the right side or left side of one

of the keyboard units of Pollitt to provide extra keys for accessing any functions to be implemented in a personal computer.

Allowable Subject Matter

8. **Claims 18 and 33** are allowed.
9. **Claims 2-7, 9, 11, 13-17, 20-21, 23-24, 26, 28, and 31** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Katz (U.S. Pat. No. 6,088,220) teaches a folding pocket-sized computer having a keyboard divided into two halves hingedly connected along a fold line.

Bullister (U.S. Pat. No. 6,256,017 B1) teaches a collapsible keyboard and display mechanism for a computer system.

Chung et al. (U.S. Pat. No. 6,825,832 B2) teaches a hand held computer comprising a folding keyboard.

Chiu (U.S. Pat. No. 5,457,453) teaches a folding keyboard for a miniature computer.

Katsura (U.S. Pat. No. 6,377,324 B1) teaches a flexible liquid crystal display panel including a clearance groove for receiving a bend.

Kim (U.S. Pat. No. 6,016,176) teaches an electronic apparatus including a flexible LCD.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2006/01/20
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Amare Mengistu
Primary Examiner